

AMENDMENTS TO CLAIMS

1. (Currently Amended) A method of manufacturing an optical component having at least one photo-oriented polymeric layer provided on a substrate, wherein the method includes the steps of:

providing a single source of laser radiation;

splitting the laser radiation into a first beam of linearly polarised polarized light having a first plane of polarisationpolarization, and a second beam of linearly polarised polarized light having a second plane of polarisationpolarization;

directing the first beam of linearly polarised polarized light onto a first area or areas of at least one photo-orientatable polymeric layer to cause a first molecular orientation in the first area or areas of the layer; and

directing the second beam of linearly polarised polarized light onto said photo-orientatable polymeric layer to cause a second molecular orientation in a second area or areas of the layer.

2. (Currently Amended) A method according to claim 1 wherein the arrangement is such that the second beam of linearly polarised polarized light arrives at the photo-orientatable polymeric layer a predetermined delay time after the first beam of linearly polarised polarized light.

3. (Original) A method according to claim 2 wherein the predetermined delay time is sufficient for the first beam to have caused the first molecular orientation in the first area or areas of the photo-orientatable polymeric layer before the second beam arrives.

4. (Currently Amended) A method according to claim 2 [~~or claim 3~~] wherein the predetermined delay time is in the order of nanoseconds.

Claim 5. (Cancelled)

6. (Currently Amended) A method according to [any one of the preceding claims]claim 1 wherein the first beam is directed onto the first area or areas of the photo-orientable polymeric layer through a mask.

7. (Original) A method according to claim 6 wherein the second beam is directed onto the second area or areas of the photo-orientable polymeric layer through a mask.

8. (Currently Amended) A method according to [any one of claims 1 to 6] ~~claim 1~~ wherein the second beam is directed onto the entire area of the photo-orientatable polymeric layer including the first and second areas.

9. (Currently Amended) A method according to [any one of the preceding claims] ~~claim 1~~ wherein the energy of each of the first and second beams is less than the energy required to cause laser ablation of the photo-orientatable polymeric layer.

10. (Currently Amended) A method according to [any one of the preceding claims] ~~claim 1~~ wherein the ratio of the energy of the first beam to the energy of the second beam is approximately 2:1 energy units.

Claims 11-25. (Cancelled)

26. (Currently Amended) A method according to [any one of the preceding claims] ~~claim 1~~ wherein the energy of each of the first and second beams is less than the cohesive/adhesive forces adhering the photo-orientatable layer to the substrate.

27. (Currently Amended) An apparatus for manufacturing an optical component having at least one photo-oriented polymeric layer, wherein the apparatus comprises:

a single source of laser radiation;

beam splitting means for splitting the laser radiation into a first beam of linearly polarised ~~polarized~~ light having a first plane of polarisation and a second beam of linearly polarised ~~polarized~~ light having a second plane of ~~polarisation~~ ~~polarization~~;

first directing means for directing the first beam of linearly polarised ~~polarized~~ light onto a first area or areas of at least one photo-orientatable polymeric layer to cause a first molecular orientation in said first area or areas of the layer; and

second directing means for directing the second beam of linearly polarised ~~polarized~~ light onto said at least one photo-orientatable polymeric layer to cause a second molecular orientation in a second area or areas of the layer;

wherein the apparatus includes delay means for the second beam of linearly polarised polarized light so that the second beam arrives at the photo-orientatable layer a predetermined delay time after the first beam of linearly polarised polarized light.

28. (Currently Amended) An apparatus according to claim 27 wherein the second beam of linearly polarised polarized light is reflected off a plurality of mirrors before it is directed onto the photo-orientatable polymeric layer.

29. (Currently Amended) An apparatus according to claim 27 [~~or claim 28~~] wherein the first beam of linearly polarised polarized light is directed onto the photo-orientatable layer through a mask so that only the first area or areas of the photo-orientatable polymeric layer are exposed to the first beam.

30. (Currently Amended) An apparatus according to [~~any one of claims 27 to 29~~] claim 27 wherein the second beam of linearly polarised polarized light is directed onto the second area or areas through a mask.

31. (Currently Amended) An apparatus according to claim 29 [~~or claim 30~~] wherein the mask is formed from any one of the following:

chrome; or

quartz; or

a dielectric material.

32. (Currently Amended) An apparatus according to [~~any one of claims 27 or 29~~ wherein] claim 27 the second beam is directed onto the entire area of the photo-orientatable polymeric layer including the first and second areas.

33. (Currently Amended) An apparatus according to [~~any one of claims 27 to 29~~] claim 27 further including a second beam splitting means for splitting the second beam into a third beam having a third plane of polarization

polarization.

34. (Currently Amended) An apparatus according to claim 33 further including third directing means for directing the third beam of linearly polarised polarized light onto said photo-orientatable polymeric layer to cause a third molecular orientation in a third area or areas.

35. (Currently Amended) An apparatus according to [any one of claims 27 to 34]
claim 27 further including at least one polarization-polarization rotator.

36. (Currently Amended) An apparatus according to [any one of claims 27 to 35]
claim 27 further including an attenuator to provide energy control for the second beam.

37. (Currently Amended) An apparatus according to [any one of claims 27 to 36]
claim 27 further including a diode laser, a cylindrical lens and an adjustment mirror for
aligning the direction of the second beam.

38. (Currently Amended) An optical component which incorporates at least one
photo-oriented polymeric layer formed by the method of [any one of claims 1 to 26] claim 1.

Claim 39. (Cancelled)

40. (Currently Amended) A security document or device including an optical
component formed by the method of [any one of claims 1 to 26] claim 1.

Claim 41. (Cancelled)